one class and another to the other class; but probably on the proportions also (432). It is further remarkable, that with very few, if any, exceptions (150, 426), these decomposable bodies are exactly those governed by the remarkable law of conduction I have before described (130); for that law does not extend to the many compound fusible substances that are excluded from this class. I propose to call bodies of this, the decomposable class, *Electrolytes* (400).

559. Then, again, the substances into which these divide, under the influence of the electric current, form an exceedingly important general class. They are combining bodies; are directly associated with the fundamental parts of the doctrine of chemical affinity; and have each a definite proportion, in which they are always evolved during electrolytic action. I have proposed to call these bodies generally *ions,* or particularly *onions* and *cations,* according as they appear at the *anode* or *cathode* (401); and the numbers representing the proportions in which they are evolved *electro-chemical equivalents.* Thus hydrogen, oxygen, chlorine, iodine, lead, tin are *ions;* the three former are *anwns,* the two metals are *cations,* and i, 8, 36, 125, 104, 58, are their *electro-chemical equivalents* nearly.

560. A summary of certain points already ascertained respecting *electrolytes, ions,* and *electro-chemical equivalents,* may be given in the following general form of propositions, without, I hope, including any serious error.

561. i. A single *ion, i.e.* one not in combination with another, will have no tendency to pass to either of the electrodes, and will be perfectly indifferent to the passing current, unless it be itself a compound of more elementary *ions*, and so subject to actual decomposition. Upon this fact is founded much of the proof adduced in favour of the new theory of electro-chemical decomposition, which I put forth in a former part of these Researches (254, etc.).

562. ii. If one *ion* be combined in right proportions (432) with another strongly opposed to it in its ordinary chemical relations, *i.e.* if an *anion* be combined with a *cation,* then both will travel, the* one to the *anode,* the other to the *cathode,* of the decomposing body (266, 278, 283).

563. iii. If, therefore, an *ion* pass towards one of the

elec-
trodes, another *ion* must also be passing simultaneously to the
other electrode, although, from secondary action, it may not
make its appearance (478).

564. iv. A body decomposable directly by the electric current,